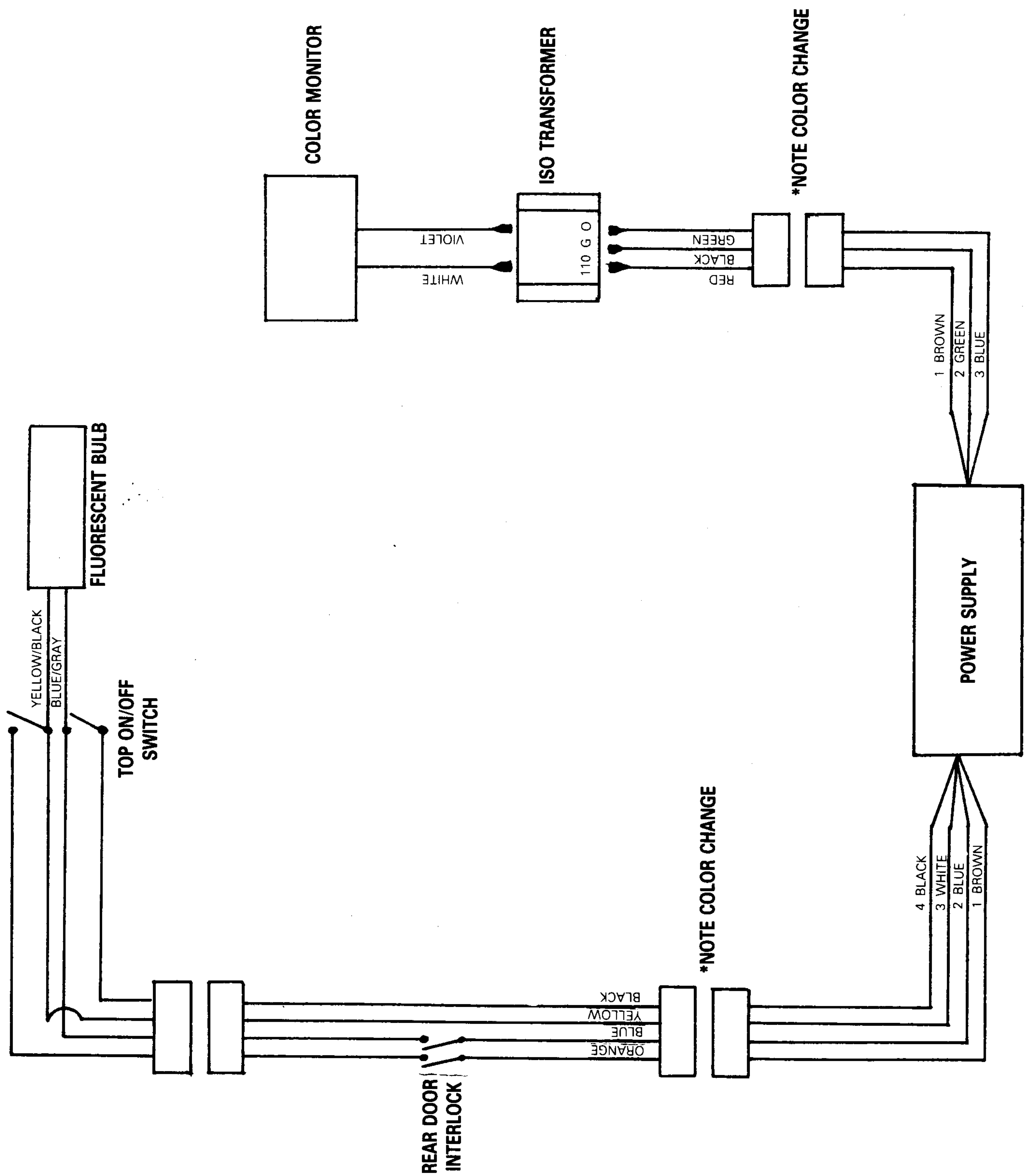
LETHAL ENFORCERS A.C. WIRING HARNESS



LETHAL ENFORCERS PARTS LIST

Part #	Description
191003	Lethal Enforcers PCB
191011	Lethal Enforcers DC Harness
191010	Lethal Enforcers AC Harness
191100	Lethal Enforcers CPO
191101	Lethal Enforcers Instruction Decal
191102	Lethal Enforcers Bullet Hole
191103	Lethal Enforcers Bezel Panel
191200	Lethal Enforcers Marquee
191300	Lethal Enforcers U/R Side Decal
191301	Lethal Enforcers U/L Side Decal
191302	Lethal Enforcers M/R Side Decal
191303	Lethal Enforcers M/L Side Decal
191304	Lethal Enforcers L/R Side Decal
191305	Lethal Enforcers L/L Side Decal
191400	Lethal Enforcers Manual
191605	Lethal Enforcers Cabinet
191800	Red Gun
191801	Blue Gun
191900	Gun Holster
191901	Cable Clamp
191902	Gun Extention Cable
191903	3mm Alan Wrench
30255	Test Button
30261	Switches
30262	Palnuts
30282	Red 2″ Clear Button
30283	Blue 2″ Clear Button
35205	ISO Trans
35405	Power Supply
40101	Coin Door with Mirror
40211	109 Degree Brackets
40356	Monitor Glass
40357	Marquee Glass
40361	Mirror Glass
40525	25″ Monitor HV Cap
40700	Light Fixture
40702	Light Bulbs
602628	Button Plate

	Solder Side			Parts Side	
BLACK	GND	A	1	GND	BLACK
BLACK	GND	B	2	GND	BLACK
RED	+5V DC	C	3	+5V DC	RED
RED	+5V DC	D	4	+5V DC	RED
	NOT USED	E	5	NOT USED	
ORANGE	+12V DC	F	6	+12V DC	ORANGE
	*KEY	H	7	*KEY	
BROWN/YELLOW	COIN COUNTER	J	8	COIN COUNTER	GREEN/VIOLET
	(EMPTY)	K	9	(EMPTY)	
	(EMPTY)	L	10	(EMPTY)	
	(EMPTY)	M	11	(EMPTY)	
WHITE/GREEN	VIDEO GREEN	N	12	VIDEO RED	RED/WHITE
WHITE	VIDEO SYNC	P	13	VIDEO BLUE	BLUE/WHITE
	(EMPTY)	R	14	VIDEO GROUND	BLACK
	(EMPTY)	S	15	TEST SWITCH	GRAY/WHITE
WHITE/VIOLET	COIN 2	T	16	COIN 1	BLUE/VIOLET
RED/GREEN	START 2	U	17	START 1	RED/YELLOW
	(EMPTY)	V	18	(EMPTY)	
	(EMPTY)	W	19	(EMPTY)	
	(EMPTY)	X	20	(EMPTY)	
	(EMPTY)	Y	21	(EMPTY)	
	(EMPTY)	Z	22	(EMPTY)	
	(EMPTY)	a	23	(EMPTY)	
	(EMPTY)	b	24	(EMPTY)	
	(EMPTY)	c	25	(EMPTY)	
	(EMPTY)	d	26	(EMPTY)	
BLACK	GND	e	27	GND	BLACK
BLACK	GND	f	28	GND	BLACK

(BASE COLOR/LINE COLOR)

TECHNICAL INFORMATION

(1) Required power capacity
GND-Vcc 5V 4A or more
GND-(+12V)
*See the Wiring Diagram.
(2) Output
R (red) analog, positive
G (green) analog, positive
B (blue) analog, positive
SYNC. H-V complexed, negative
(3) The monitor should be horizontal and face up installed.
(4) There is no sound volume knob on the PCB. Sound level should be adjusted in the "GAME OPTIONS" in the Manual Test mode. (See page 6.)
(5) Handle with care.

DIP SWITCH SETTINGS AND CABINETS AVAILABLE

This game is equipped with a 4-bit DIP SWITCH on the PCB (position Q1); Switching an Arcade type game to a Street type game and other changes will easily be done with these DIP switches.

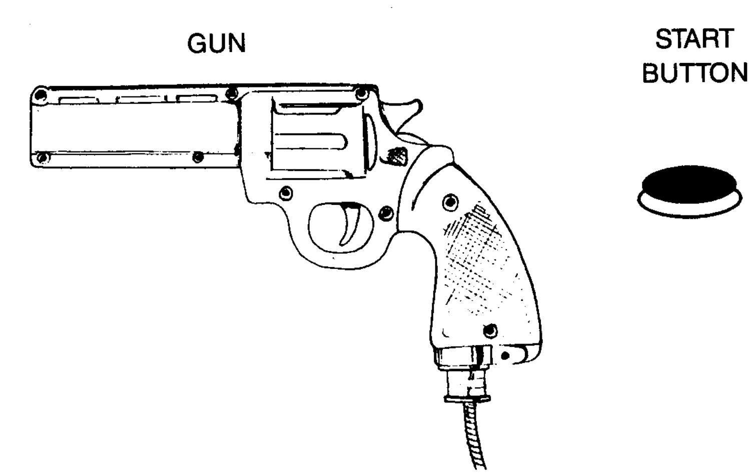
	CONTENTS	ON	OFF
SW1	SOUND OUTPUT	MONAURAL	**STEREO**
SW2	COIN MECHANISM	INDEPENDENT	**COMMON**
SW3	GAME TYPE	**ARCADE**	STREET
SW4	LANGUAGE	SPANISH	**ENGLISH**

***Bold letters show default settings.**

Note:
1) On the STEREO cabinet, set SW1 at "ON" so that you can get better music and sound effects.
2) Regarding other game options and coin options, refer to "Manual Test" on page 3.

CONTROL PANEL INFORMATION

Use a dual control panel with a gun and a start button for each player.



PLAY INSTRUCTION

(STARTING ARCADE TYPE GAME)
- 1 or 2 people can play at the same time. Second player can join in at any time.
- Deposit coins and press START button.

(STARTING STREET TYPE GAME)
- 1 or 2 players can play at the same time. Second player can join in at any time.
- Deposit coins and press START button, and the stage select screen will appear. Aim and shoot the screen to select stage. If you are playing with another player, the first selection is accepted.

(HOW TO PLAY)
- Aim and shoot the enemies to kill them.
- Don't shoot innocent people. If you shoot them, you lose one life.
- Reload your gun by shooting off screen at any time.
- Shoot power up weapons for that power.
  Magnum: Large caliber bullets. You can shoot 6 bullets without reload.
  Automatic: 12 round bullets. You can shoot 6 bullets without reload.
  Assault Rifle: 3 shot burst. You can shoot 12 bullets without reload.
  Shot Gun: Large gauge. You can shoot 6 bullets without reload.
  Machine Gun: Full automatic. You can shoot 36 bullets only.
  Grenade Gun: Explosive. You can shoot 8 bullets only.
- You lose your life by enemy's shots, or shooting innocent people.
- You can get extra lives with high scores.
- When you set the game mode to Arcade type, there are 5 stages and shooting range as bonus stage. And each stage consists of 3 or 4 scenes. When you defeat the boss enemy in each stage, you can go on to the next stage.
- When you set the game mode to Street type, you can choose the stage out of 5 stages and shooting range, total 6 stages.
- Continuation is available. (The operator can change the settings in the "GAME OPTIONS.")

SELF TEST

Normal: "OK" will be displayed. Then the game will start.
Abnormal: "BAD" will be displayed and self test will repeat.

MANUAL TEST

(1) HOW TO START
After switching on the power, press the TEST SWITCH on the PCB or on the cabinet, and you will get the MAIN MENU of the Manual Test.
NOTE: Switching on with TEST SWITCH pressed causes the program in the EEPROM to be initialized to default.

(2) HOW TO RETURN TO THE GAME MODE
Select "GAME MODE" on the MAIN MENU with START BUTTON, then pull gun trigger to return to the game mode.

(3) ITEMS AND HOW TO SELECT
Press player 1 START BUTTON to move up the menu, and press player 2 START BUTTON to move down the menu, then pull either player 1 or player 2 gun trigger to initiate testing. Press player 1 START BUTTON during or at the end of each test to return to the MAIN MENU.


```
MAIN MENU

I/O CHECK
GUN CHECK
SCREEN CHECK
COLOR CHECK
SOUND CHECK
MASK ROM CHECK
GAME OPTIONS
COIN OPTIONS
GAME AUDITS
GAME MODE

P1 START=UP/P2 START=DOWN
GUN TRIGGER=DO CHECK
```

(4) EXPLANATION OF THE ITEMS

1. I/O CHECK
Check both START buttons and Triggers to see "ON" when switched on. DIP SWITCH SETTINGS show the present settings. To modify settings, turn ON/OFF the DIP switches on the PCB (position Q1). Press player 1 and 2 START BUTTONS at the same time to return to MAIN MENU.

2. GUN CHECK
Check gun and monitor's condition. The screen is filled with boxes outlined in red. You aim and shoot these boxes first with player 1 gun, then with player 2 gun. The boxes will disappear when they are shot at. If you cannot shoot some boxes, you need to adjust the monitor or gun. You can see "HELP" screen by pressing player 2 START BUTTON. It suggests how to troubleshoot problems.

3. SCREEN CHECK
Adjust focus, alignment, size, etc. using the cross-hatch screen.

4. COLOR CHECK
In color bar screen, you can adjust color brightness so that the specified area will be colorless. Improper adjustment causes the problems in game play. When you press player 2 START BUTTON, the screen will be filled with red, green, blue, white then back to color bar screen.

5. SOUND CHECK
When "SOUND SCALE CHECK" is selected, a music scale sounds. At "SOUND CODE," pull player 1 trigger to increase code value, player 2 trigger to decrease code value respectively.

6. MASK ROM CHECK
Roms will be checked one after another, and the message "OK" or "BAD" will be displayed on the screen.

7. GAME OPTIONS
The following screen will appear. Push player 1 START BUTTON to move the arrow up, player 2 START BUTTON to move the arrow down, and pull gun trigger to modify setting. Factory settings are shown in green, and modified results in red. (Settings below are not always the factory settings.) After modification is completed, select "SAVE AND EXIT" and pull player 1 (2) trigger to save and return to MAIN MENU.

GAME OPTIONS		
PLAYER'S LIFE	1 CREDIT 5 LIVES	...Select from 1 to 9 lives.
EXTRA LIFE	1ST AT 2000 POINTS 2ND AT 2000 POINTS	...Select out of "1st/1000, 2nd/1000," "1st/1000, 2nd/2000" "1st/2000, 2nd/2000," "1st/2000, 2nd/3000," "NO EXTRA LIFE"
CONTINUATION	YES (NO LIMIT)	...Select out of YES (NO LIMIT), NO CONTINUE, YES (1-9 times)
DIFFICULTY LEVEL	4/MEDIUM	...Select out of 8 levels.
VIDEO SCREEN	FLIP MIRROR	..."MIRROR," "UPSIDE DOWN," "NO MIRROR," "MIRROR FLIP"
VOLUME	40	...Sound volume from 1 to 59.
SOUND IN ATTRACT MODE	ALL THE TIME	..."ALL THE TIME," "COMPLETELY OFF," "ONCE EVERY 4 CYCLES"
FACTORY SETTINGS		...All the settings return to default.
SAVE AND EXIT		...Save the modified settings.
EXIT		
P1 START=UP/P2 START=DOWN GUN TRIGGER=MODIFY SETTINGS		

*If you select "EXIT" instead of "SAVE AND EXIT" after modifying some settings, the message appears: "YOU DID NOT SAVE. DO YOU WANT TO SAVE? YES/NO." When you choose "YES," the screen shows "NOW SAVING" and returns to MAIN MENU. If you select "NO," "NO MODIFICATION" is shown and then MAIN MENU appears.

(8) COIN OPTIONS

1. When the "COIN MECHANISM" is set at "COMMON" on the DIP SWITCH on the PCB (SW2 is "OFF"), on the cabinet with 2 coin slots, coin setting must be done for each coin slot.
2. When the "COIN MECHANISM" is set at "INDEPENDENT" on the DIP SWITCH on the PCB (SW2 is "ON"), the left coin slot will be for player 1, the right one for player 2.
3. When you want "PREMIUM START" setting, choose the number of extra coins necessary for starting, then decide the coin setting for continuation. The number of coins for starting will be the sum of both numbers. If you do not set premium start, the number of coins necessary for start and continuation will be the same.

COIN OPTIONS		
FREE PLAY	NO	..."NO," "YES."
COIN MECHANISM	COMMON	...You can change this with DIP SWITCH on the PCB (SW2).
COIN SLOT 1	1 COIN 1 CREDIT	
COIN SLOT 2	1 COIN 1 CREDIT	
PREMIUM START	YES 1	..."NO" or "YES 1" to "YES 4." (You can set the play fee for starting higher than the play fee for continuation.)
2 CREDITS TO START		
1 CREDIT TO CONTINUE		
FACTORY SETTINGS		Same as "GAME OPTIONS"
SAVE AND EXIT		Same as "GAME OPTIONS"
EXIT		Same as "GAME OPTIONS"
P1 START=UP/P2 START=DOWN GUN TRIGGER=MODIFY SETTINGS		

LETHAL ENFORCERS TECHNICAL INFORMATION (cont.)

*COIN SETTING OPTIONS

COIN(S)	1	1	1	1	1	1	1	2	2	2	3	3	3	4	4	4
CREDIT(S)	1	2	3	4	5	6	7	1	3	5	1	2	4	1	3	5

(9) GAME AUDITS

The Game Audits Table records the game play statistics.

GAME AUDITS		
TOTAL PLAYS	200 TIMES	...The total amount of play
GAMES STARTED	50 TIMES	...The amount of play started from the beginning.
GAMES CONTINUED	150 TIMES	...The amount of continued.
AVERAGE TIME/CREDIT	60 SEC.	...The average play time per credit.
AVERAGE SCORE/CREDIT	800 POINTS	...The average scores per credit.
EXIT		
CLEAR AUDIT TABLE		
P1 START=UP/P2 START=DOWN GUN TRIGGER=EXECUTION		

*After changing the "GAME OPTIONS" or "COIN OPTIONS," you need to clear the Audit Table to see those changes affect the game play.

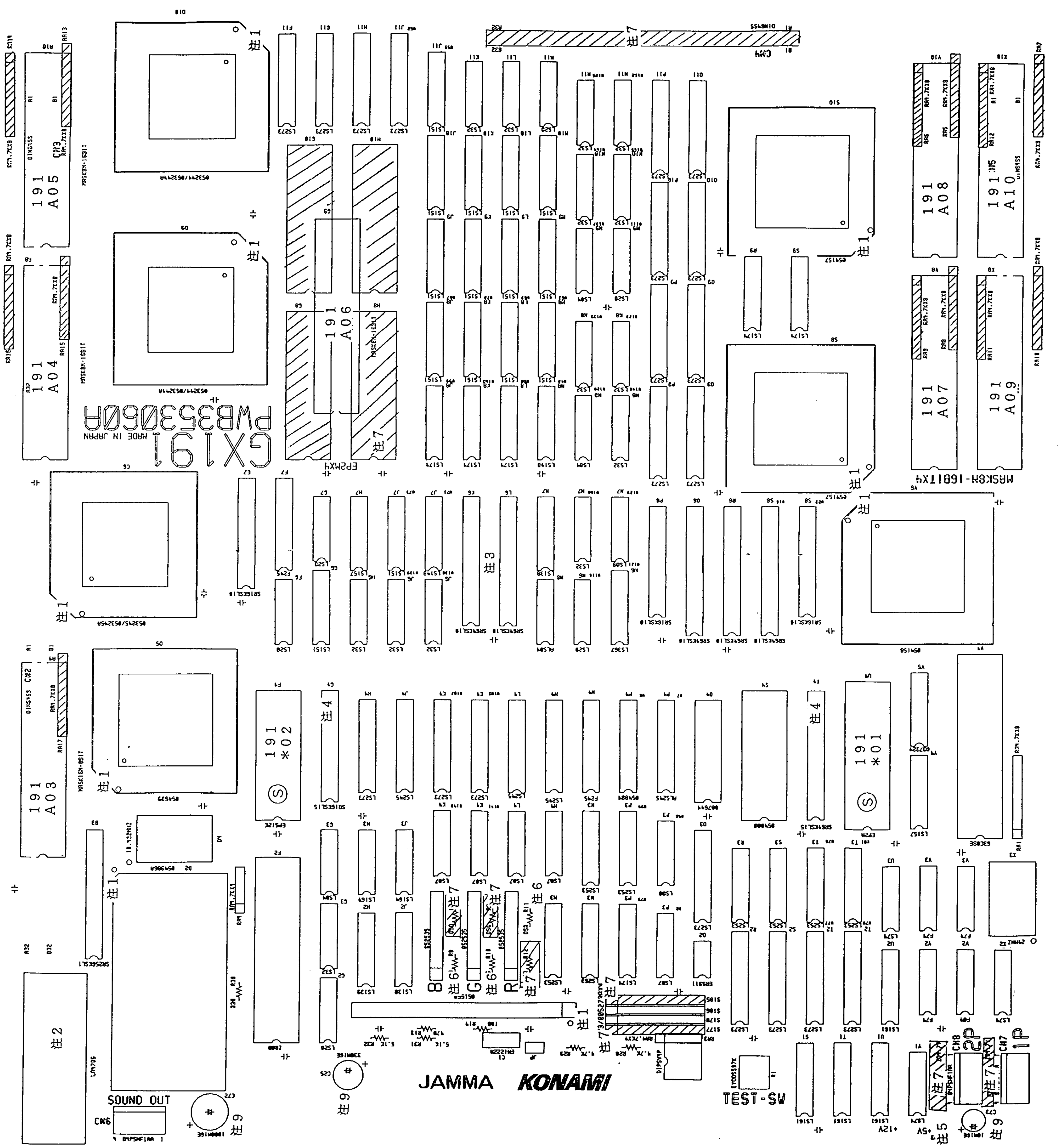
TROUBLESHOOTING ABOUT GUN AND MONITOR

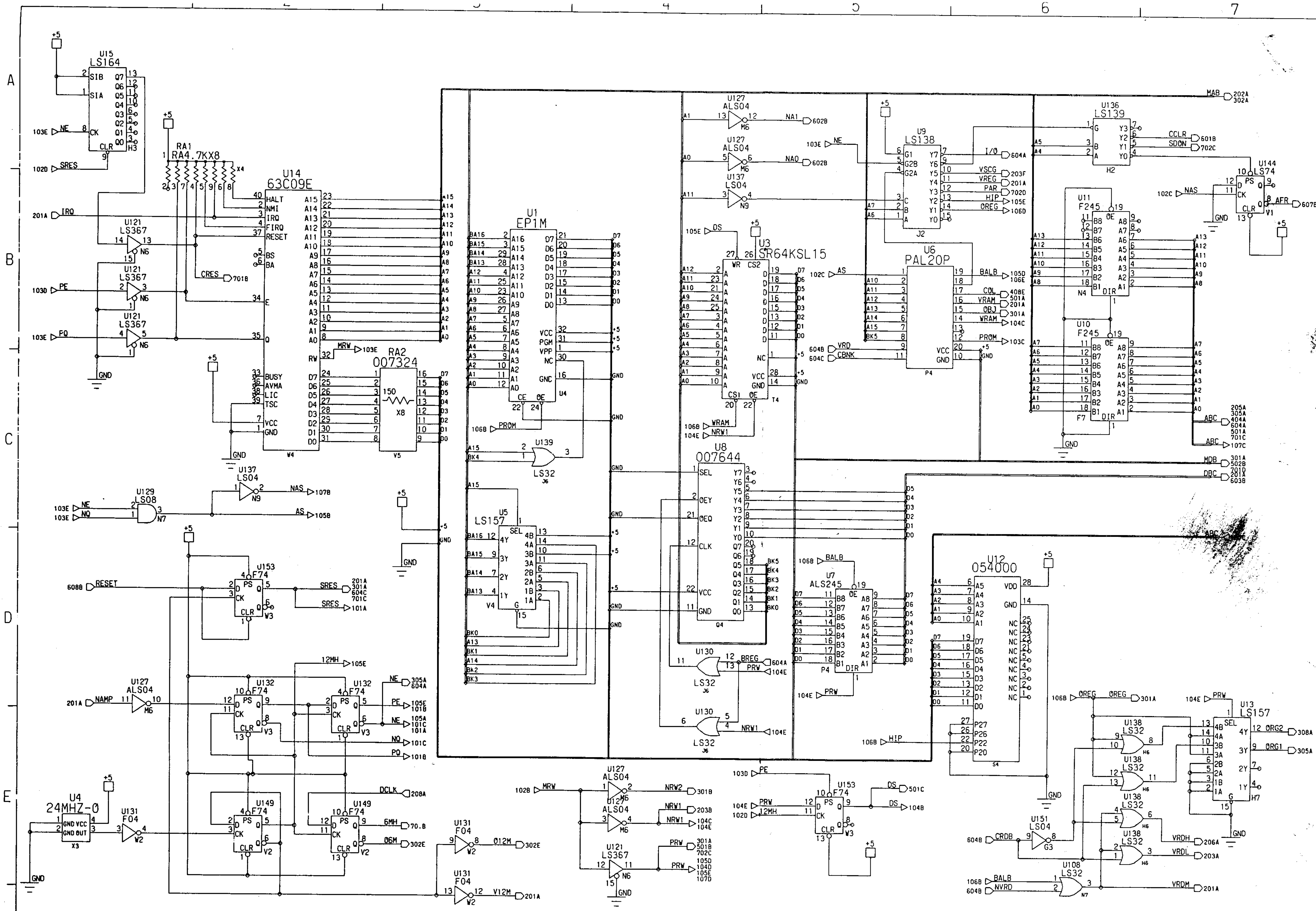
Here is a list of commonly found problems and their possible solutions.

- Erratic gun shot placement.
  —Check to see that there is no reflected light from fluorescent or neon lights bouncing off of the screen. Strong sunlight also affects the shot placement.
- You cannot shoot a certain area in the screen.
  —Check to see the monitor's purity with red, blue, green, and white screen in the "COLOR CHECK" in the Manual Test. If you find purity problems, you should degauss the monitor.
  —Check to see there is no magnetic equipment around the cabinet. This may also cause the monitor to become magnetized.
  —After degaussing the monitor, you can check the gun and monitor in the "GUN CHECK" in the Manual Test.
- Screen flashes when trigger is pulled but no shot is made.
  —Check to see the gun lens inside of the barrel is clean.
  —Adjust the monitor's brightness with color bar screen in the "COLOR CHECK" of the Manual Test.

- **CLEAN MONITOR AND MIRROR REGULARLY.**

LETHAL ENFORCERS PCB LAYOUT





---NOTES---

- VCC(+5V)
- VCC(+12V)
- GND
- CN1 JAMMA EDGE 56P
- CN2 64P DIN CONNECTOR
- CN3 64P DIN CONNECTOR
- CN4 64P DIN CONNECTOR
- CN5 64P DIN CONNECTOR
- CN6 4P NH CONNECTOR
- CN7 4P NH CONNECTOR
- CN8 4P NH CONNECTOR

KINDS OF CAPACITOR

C :CERAMIC

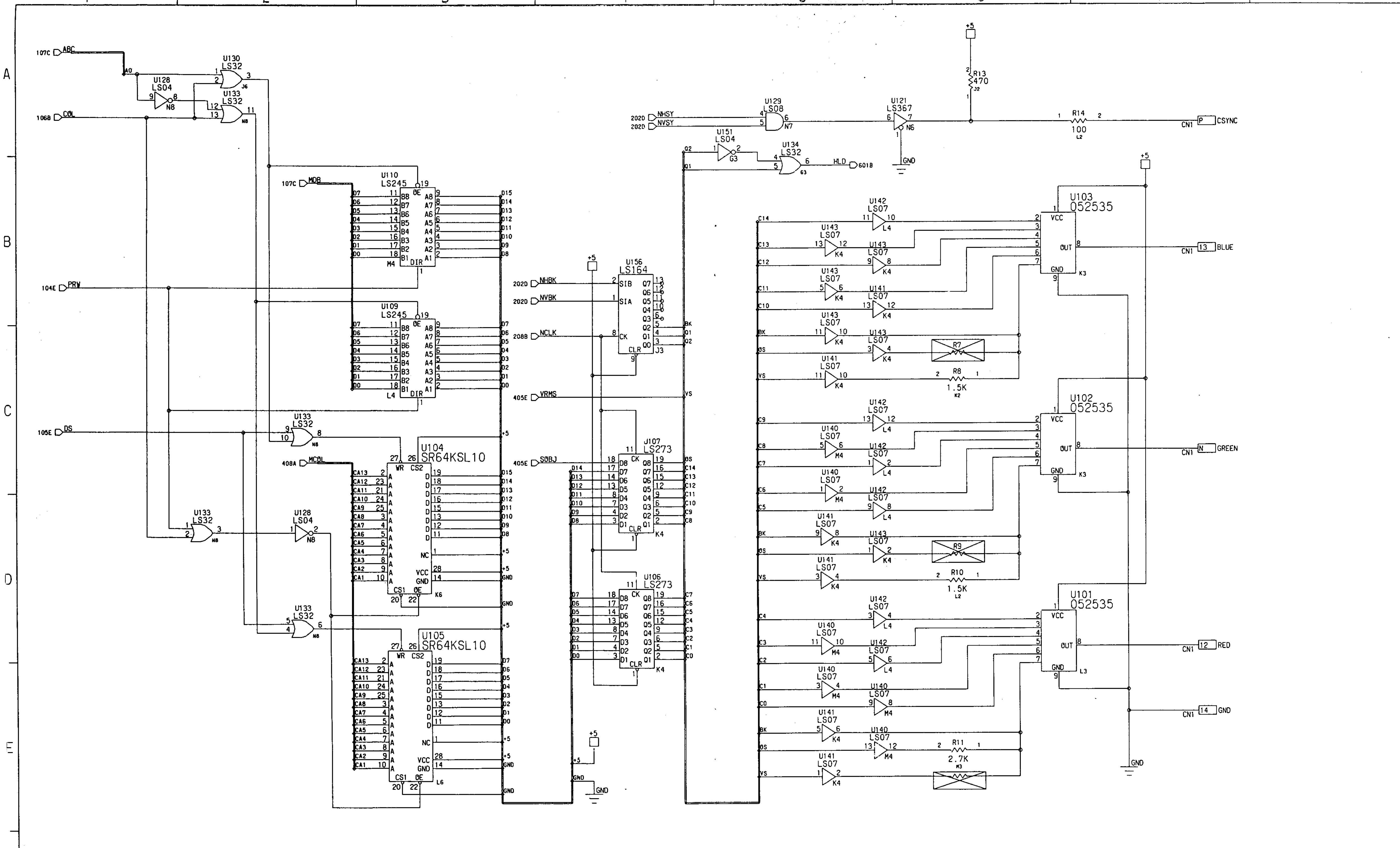
E :ELECTROLYTIC

KONAMI

KONAMI CO.,LTD.

DRAWING

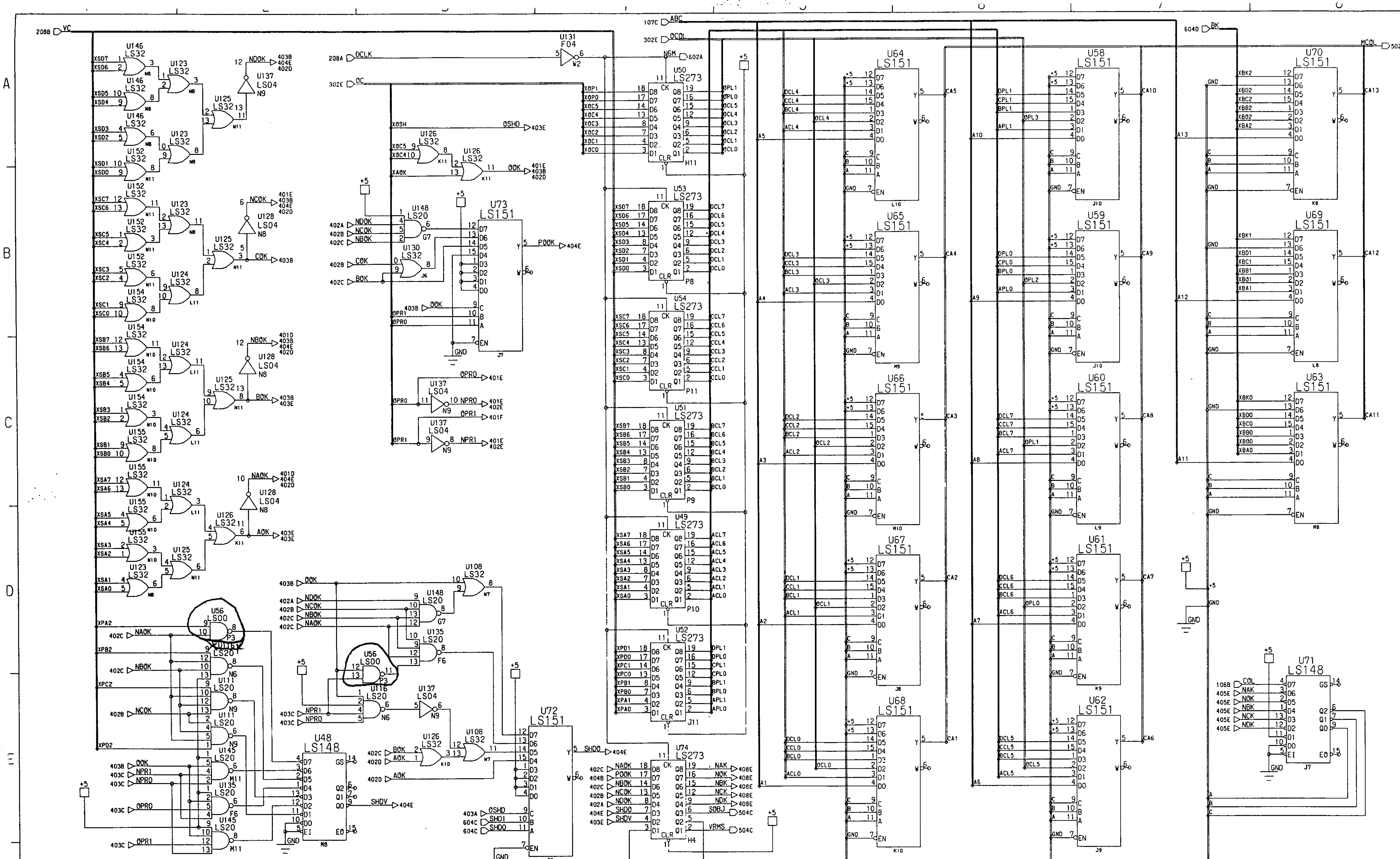
DESIGN	H.MATSUURA	TITLE	SCHEMATIC DIAGRAM
DRAW	H.MATSUURA	SUBTITLE	10CPU
CHECK	[signature]	PAGE	
APPROVE	[signature]	CODE NO.	353446
SCALE		REG.TYPE	GX191 PWB353060A
TOLERANCE		SECURITY LEVEL	CONFIDENTIAL
DATE	1992. 8.13		



DRAWING

KONAMI CO..LTD.

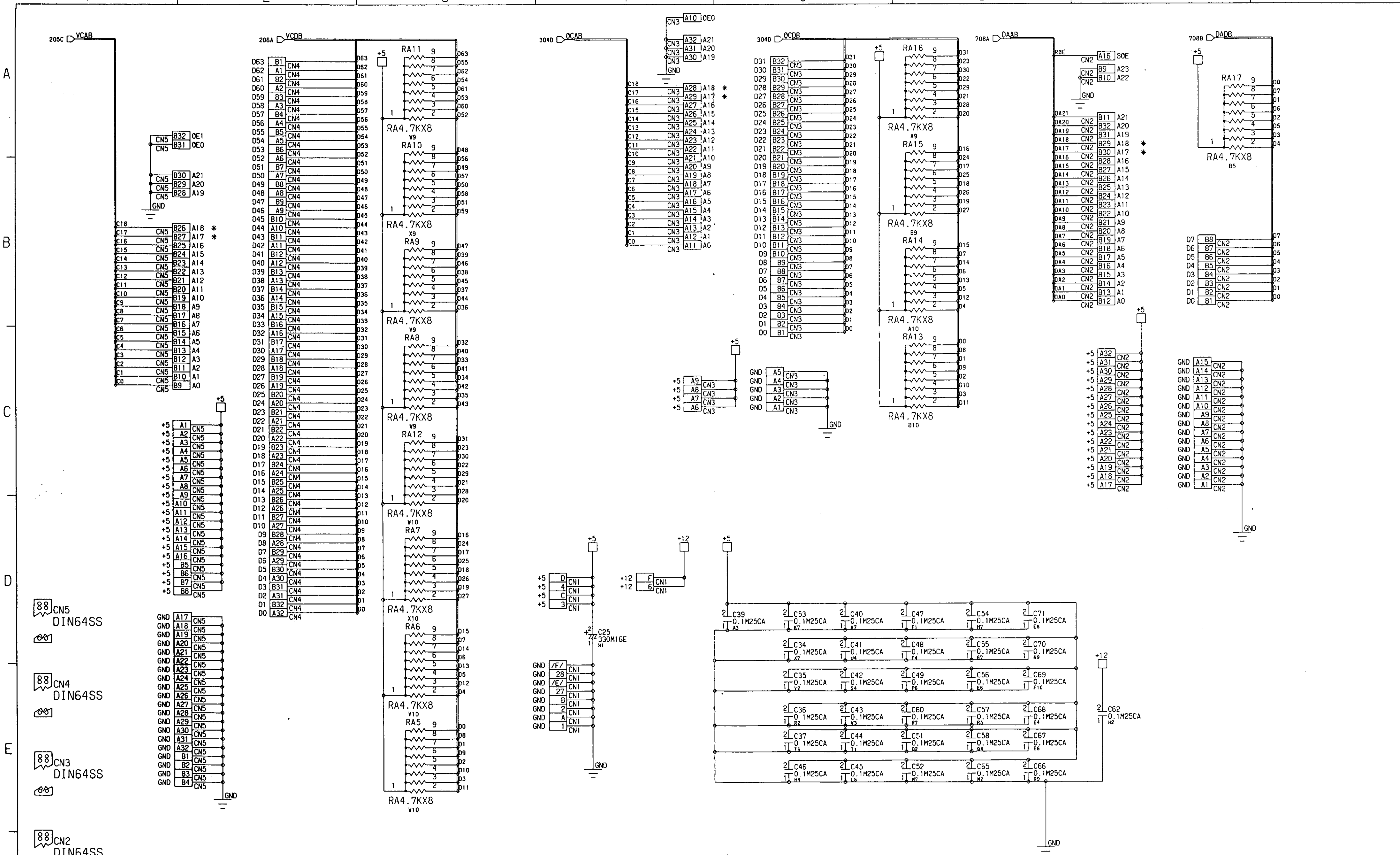
DESIGN	H.MATSUURA	TITLE	SCHEMATIC DIAGRAM
DRAW	H.MATSUURA	SUBTITLE	50COLOR
CHECK		PAGE	
APPROVE		CODE NO.	353446
SCALE		REG.TYPE	GX191 PWB353060A
TOLERANCE		SECURITY LEVEL	CONFIDENTIAL
DATE	1992. 8.13		



KONAMI CO.,LTD.

DRAWING

DESIGN	H.MATSUURA	TITLE	SCHEMATIC DIAGRAM
DRAW	H.MATSUURA	SUBTITLE	40PCU
CHECK	[illegible]	PAGE	
APPROVE	[illegible] Ueno	CODE NO.	353446
SCALE		REG.TYPE	GX191 PWB353060A
TOLERANCE		SECURITY LEVEL	CONFIDENTIAL
DATE	1992. 8.13		

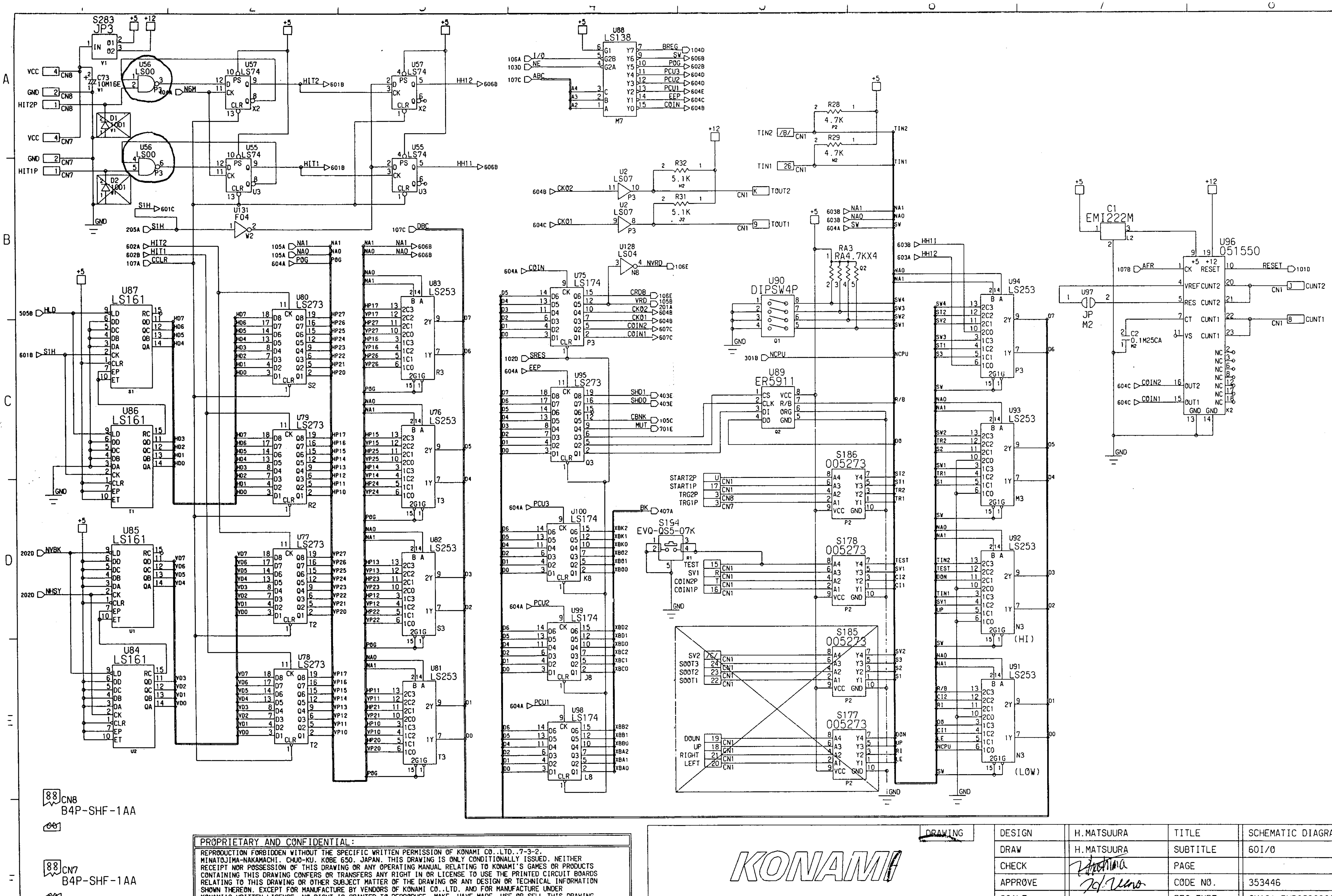


KONAMI

KONAMI CO..LTD.

DRAWING

DESIGN	H.MATSURA	TITLE	SCHEMATIC DIAGRAM
DRAW	H.MATSURA	SUBTITLE	80ROMB
CHECK	Hashima	PAGE	
APPROVE	Y. Ueno	CODE NO.	353446
SCALE		REG.TYPE	GX191 PWB353060A
TOLERANCE		SECURITY LEVEL	CONFIDENTIAL
DATE	1992. 8.13		



PROPRIETARY AND CONFIDENTIAL:

REPRODUCTION FORBIDDEN WITHOUT THE SPECIFIC WRITTEN PERMISSION OF KONAMI CO..LTD..7-3-2. MINATOJIMA-NAKAMACHI. CHUO-KU. KOBE 650. JAPAN. THIS DRAWING IS ONLY CONDITIONALLY ISSUED. NEITHER RECEIPT NOR POSSESSION OF THIS DRAWING OR ANY OPERATING MANUAL RELATING TO KONAMI'S GAMES OR PRODUCTS CONTAINING THIS DRAWING CONFERS OR TRANSFERS ANY RIGHT IN OR LICENSE TO USE THE PRINTED CIRCUIT BOARDS RELATING TO THIS DRAWING OR OTHER SUBJECT MATTER OF THE DRAWING OR ANY DESIGN OR TECHNICAL INFORMATION SHOWN THEREON. EXCEPT FOR MANUFACTURE BY VENDORS OF KONAMI CO..LTD. AND FOR MANUFACTURE UNDER KONAMI'S WRITTEN LICENSE. NO RIGHT IS GRANTED TO REPRODUCE. MAKE. HAVE MADE. USE OR SELL THIS DRAWING OR THE SUBJECT MATTER THEREOF INCLUDING. WITHOUT LIMITATION. THE PRINTED CIRCUIT BOARD OR OPERATING MANUAL RELATING THERETO. WHATSOEVER. UNLESS BY WRITTEN AGREEMENT WITH OR WRITTEN PERMISSION FROM KONAMI.

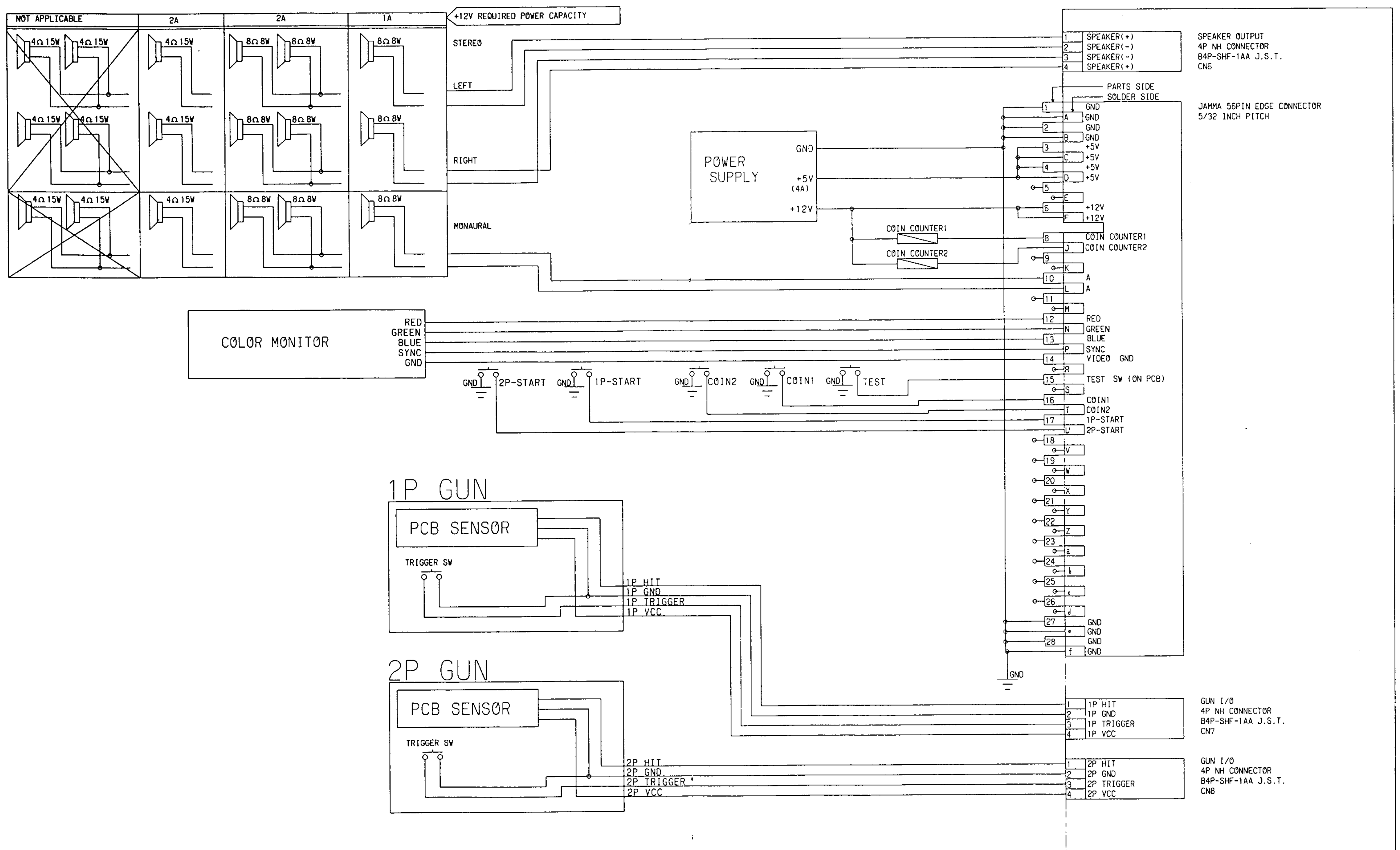
KONAMI

KONAMI CO..LTD.

DRAWING

DESIGN	H.MATSUURA	TITLE	SCHEMATIC DIAGRAM
DRAW	H.MATSUURA	SUBTITLE	60I/O
CHECK		PAGE	
APPROVE		CODE NO.	353446
SCALE		REG.TYPE	GX191 PWB353060A
TOLERANCE		SECURITY LEVEL	CONFIDENTIAL
DATE	1992. 8.13		

LETHAL ENFORCERS WIRING DIAGRAM



- NOTE -

1. 1P:NO.1 PLAYER 2P:NO.2 PLAYER

2. SURGE KILLER DIODES FOR COIN COUNTER INSTALLED ON THE P.C.B.

KONAMI

KONAMI CO..LTD.

DRAWING

DESIGN	H.MATSUURA	TITLE	WIRINGDIAGRAM
DRAW	H.MATSUURA	SUBTITLE	GX191
CHECK	(signature)	PAGE	
APPROVE	(signature)	CODE NO.	353445
SCALE		REG.TYPE	GX191-UA
TOLERANCE		SECURITY LEVEL	NORMAL
DATE	1992. 8.14		